

MALARIA PREVENTION IN JAMAICA

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(Received for publication 16 June, 1910)

PLATES XVI-XVII

Although it is too early to sum up the results of the special Commission appointed in October to enquire into the malarial problem in Jamaica, nevertheless, as the methods of procedure of the Commission are of real and practical interest at a time when it is incumbent upon all colonies to take steps to abate the malaria nuisance, I have considered the narration of the following facts not without interest, as I have had myself an opportunity of examining the work in progress, and as an important paper dealing with the subject of malaria in Jamaica has appeared in a previous number of these 'Annals.'*

Appointment of the Commission

The Commission was appointed by Sir Sydney Olivier, K.C.M.G., the Governor, on October 16, 1909, and consisted of the following representative members:—

The Colonial Secretary, P. C. Cork,
The Archbishop of the West Indies,
The Senior Medical Officer, Dr. Kerr,
Dr. Turton,
Dr. Grabham, Entomologist,
Messrs. Gideon and Hurt.

Mr. F. N. Isaacs was subsequently appointed Secretary. The selection of the Commission was a wise one, the members being fully alive to the importance of the work—sanitarians of pronounced modern views, and in several instances gentlemen who had contributed valuable papers upon the subject, or who had had previous experience of anti-malarial work in other colonies.

* Annals of Trop. Med. and Parasit. Vol. III, No. 4.

Power and scope of the Commission

The Commission had considerable power and a comparatively free hand. They were directed to conduct investigations, to summon witnesses if necessary, employ inspectors and experts to assist and advise them. They were, furthermore, empowered to carry out remedial and preventive works for the abatement of malaria independent of local sanitary bodies, and to conduct medical and biological investigations and to report from time to time. They were authorised to spend for scientific and preventive measures a sum in the first instance not exceeding £500 without obtaining further authority. They were also asked to report upon, and to devise measures to prevent other diseases which they might come across in the course of their investigations.

First steps of the Commission

This consisted in ascertaining the prevalence and distribution of malaria in the Island. In the first place the Commission paid a just tribute to the Report upon Malaria in Jamaica drawn up by Dr. Prout,* in which both the causes of malaria and the principles necessary for its control were fully discussed.

In the second place they asked for returns of all the cases of malaria in the island, and Dr. Grabham, one of the members of the Commission, took a splenic census of the West end district of Kingston. The Secretary, Mr. Isaacs, proceeded to Annotto Bay to make a survey of the town and district in order to ascertain the anti-malarial measures which could with advantage be introduced. Similarly the Black River, Yallahs, Morant Bay and Bath districts were visited and inspected for breeding places of Anophelines, in order to devise methods for their reduction.

From these preliminary investigations the Commissioners were able to report in February, 1910, that one-half the Island was practically free from malaria-carrying mosquitos. This area comprised those parts of the Island above 1,000 feet. Below 1,000 feet the Anophelines were found in varying numbers, and were greatest in the low-lying plains near the sea coast, where natural drainage was most difficult. Breeding places existed in the East and West end districts of Kingston and the West End constituted a badly

* *Loc. cit.*

infected endemic centre; a splenic census taken by Dr. Grabham in December, 1909, disclosing a malaria rate of 65 per cent. The cases which were received into the Kingston Hospital came mainly from this district. In this district also investigations disclosed the interesting fact that the breeding places were to a very large extent artificial, and therefore preventable collections of water, mainly due to the abuse of the filtered water supply of the town and to neglected drains and gullies. In company with Mr. Isaacs, I visited this district in April of this year—1910—and observed for myself a miniature but complete system of irrigation consisting of streams, rills, ponds and pools, all fed and kept up by the simple device of turning the taps of the domestic water supply full on, night and day. This method yielded an abundant supply of water, and enabled an extensive and profitable market-gardening system to be carried on in the midst of Kingston. Looking down upon the town, the district in question could be readily picked out by reason of its conspicuous green appearance, the result of the growth of banana trees and vegetation generally. The houses of the coolies and others who were the principal cultivators in the district were very numerous, and in these the Anophelines kept up an abundant supply of malaria cases, and helped to spread the disease to wider areas around. Thus Kingston presented a picture, of on the whole, a well-planned and drained town, from which yellow fever and malaria had been driven out and were no longer endemic; but in it there existed a comparatively small, thickly-populated area where malaria was still endemic, and the cause of the formidable number of cases of malaria entered on the books of the Public Hospital. A more striking and instructive picture of the inter-relationship of Anophelines and their breeding places with the prevalence of malaria could probably not be easily paralleled in a similar area anywhere. It serves to conclusively demonstrate the utility and importance of making investigations. The unnecessary suffering and expenditure of money caused by this endemic focus were naturally considerable, and the wanton waste of money caused by utilising the *filtered* town water supply for market-gardening purposes has a comical aspect were it not associated with such serious consequences. The Commissioners were not slow in pointing out how readily this glaring abuse might be remedied, and how by the construction of better drains and by

more vigorous filling-in operations this endemic focus might be rendered malaria-free. The photographs which I have had taken, and which are inserted in this paper, show very conclusively the extent of Anopheline breeding grounds which the abuse of the domestic water supply can bring about, if not properly controlled.

The Commission started filling-in operations in the offending district, and took steps to distribute quinine at cost price to the authorities of all malarial districts. They also arranged for the training of sanitary inspectors, so that the latter could be in a position to ferret out breeding places; Dr. Grabham took on himself this part of the work of the Commission. Public lectures were also delivered at various centres throughout the Island. In conclusion, the Commission has in a short space of time done good work—it has ventilated the subject of malaria; it has placed its finger upon the offending spots; it has shown with what comparative ease and at what small cost the remedy can be obtained; and it has commenced to enforce the remedy.

Tables showing the deaths from malaria in the various parishes from the year 1897 are appended.

DEATHS FROM MALARIA

P parish	1897-98	1898-99	1899-1900	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06	1906-07	1907-08	1908-09
Kingston ...	68	46	50	31	71	50	42	47	88	89	89	54†
St. Andrew ...	18	15	20	15	25	27	16	18	26	18	37	10
St. Thomas ...	3	7	6	6	9	33	41	17	35	46	72	57†
Portland ...	34	46	85	40	39	71	124	100	77	87	112	105†
St. Mary ...	2	4	15	7	5	34	72	40	35	36	49	22
St. Ann ...	6	3	7	4	1	11	10	8	7	10	20	18
Trelawny ...	18	5	2	9	1	5	3	10	10	4	12	7
St. James ...	10	9	5	7	12	12	12	14	18	12	14	12
Hanover ...	2	1	—	2	1	4	1	—	3	2	1	4
Westmoreland ...	10	3	1	3	4	28	20	22	20	38	28	13
St. Elizabeth ...	3	4	3	5	7	10	10	9	15	23	23	25†
Manchester ...	1	1	—	3	—	4	7	2	4	10	14	7
Clarendon ...	14	7	11	7	14	38	31	36	33	43	34	33
St. Catherine ...	8	10	6	2	12	41	80	84	90	94	165	109†
Whole Island ...	197	161	211	141	201	368	469	407	461	512	670	466

Death Rates for 'Malaria' for the years 1897-98 to 1908-1909

Year	MALARIA			
	Rate per 100 deaths		Rate per 1000 of population	
	Parish of Kingston	Whole Island excluding Kingston	Parish of Kingston	Whole Island excluding Kingston
1897-1898				
1898-1899	4.5	0.8	1.3	0.1
1899-1900	3.2	0.8	0.8	0.1
1900-1901	3.4	1.0	0.9	0.7
1901-1902	2.1	0.7	0.5	0.1
1902-1903	4.8	0.8	1.3	0.1
1903-1904	3.6	2.2	0.9	0.4
1904-1905	2.6	2.3	0.7	0.5
1905-1906	2.9	1.9	0.8	0.4
1906-1907	5.6	2.2	1.6	0.4
1907-1908	4.3	2.1	1.6	0.5
1908-1909	4.5	2.6	1.6	0.7
1908-1909	2.9	2.4	0.9	0.5

PLATES XVI-XVII

Anopheline Breeding-pools in Jamaica



